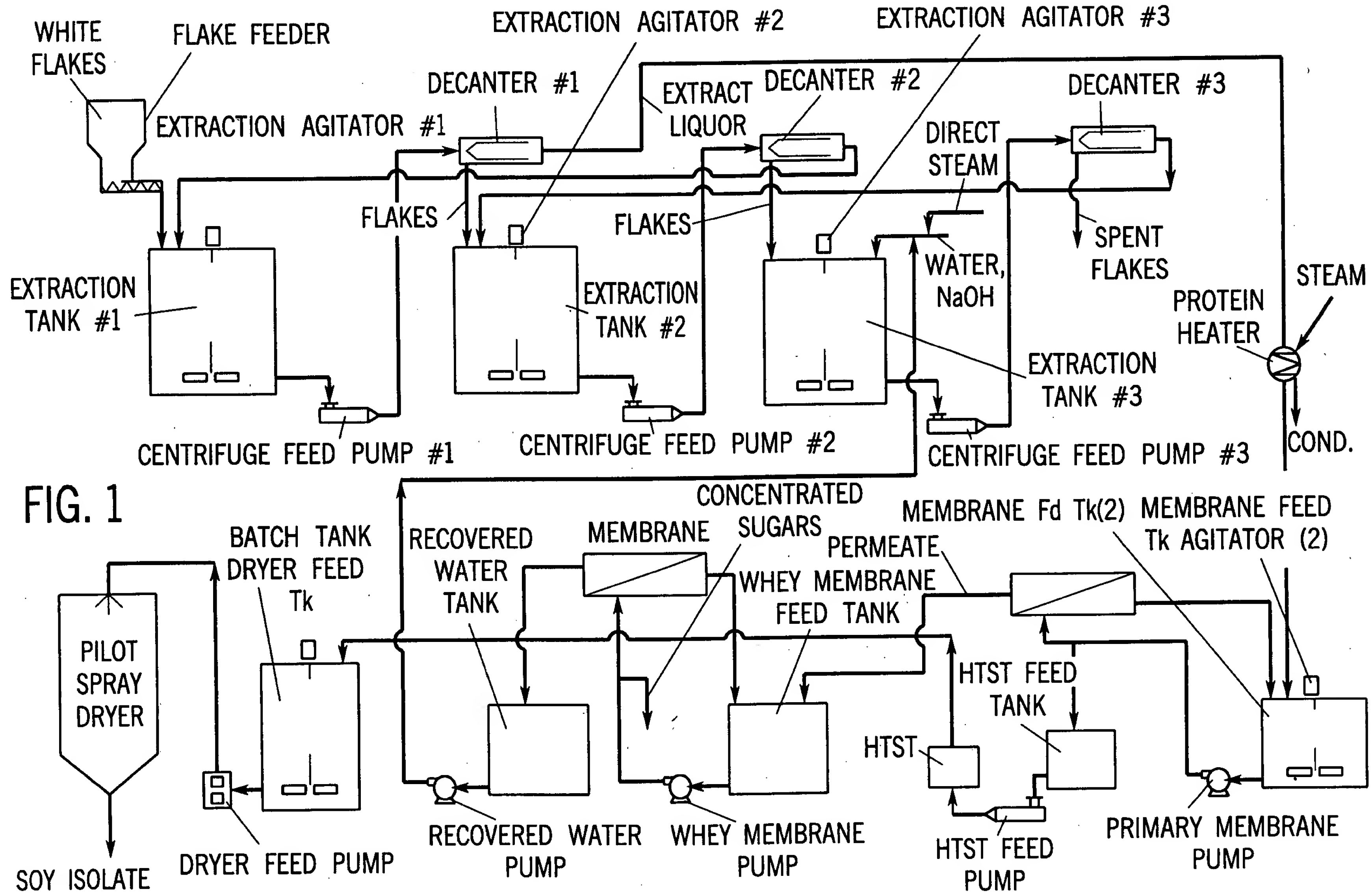
WHITE FLAKES
FLAKE FEEDER
EXTRACTION AGITATOR #1
DECANTER #1
EXTRACTION AGITATOR #2
EXTRACT LIQUOR
DECANTER #2
EXTRACTION AGITATOR #3
DIRECT STEAM
DECANTER #3
FLAKES
FLAKES
WATER, NaOH
SPENT FLAKES
EXTRACTION TANK #1
EXTRACTION TANK #2
EXTRACTION TANK #3
PROTEIN HEATER
STEAM
COND.
CENTRIFUGE FEED PUMP #1
CENTRIFUGE FEED PUMP #2
CENTRIFUGE FEED PUMP #3
BATCH TANK DRYER FEED Tk
RECOVERED WATER TANK
MEMBRANE
CONCENTRATED SUGARS
PERMEATE
WHEY MEMBRANE FEED TANK
MEMBRANE Fd Tk(2)
MEMBRANE FEED Tk AGITATOR (2)
HTST FEED TANK
HTST
PILOT SPRAY DRYER
SOY ISOLATE
DRYER FEED PUMP
RECOVERED WATER PUMP
WHEY MEMBRANE PUMP
HTST FEED PUMP
PRIMARY MEMBRANE PUMP

FIG. 1

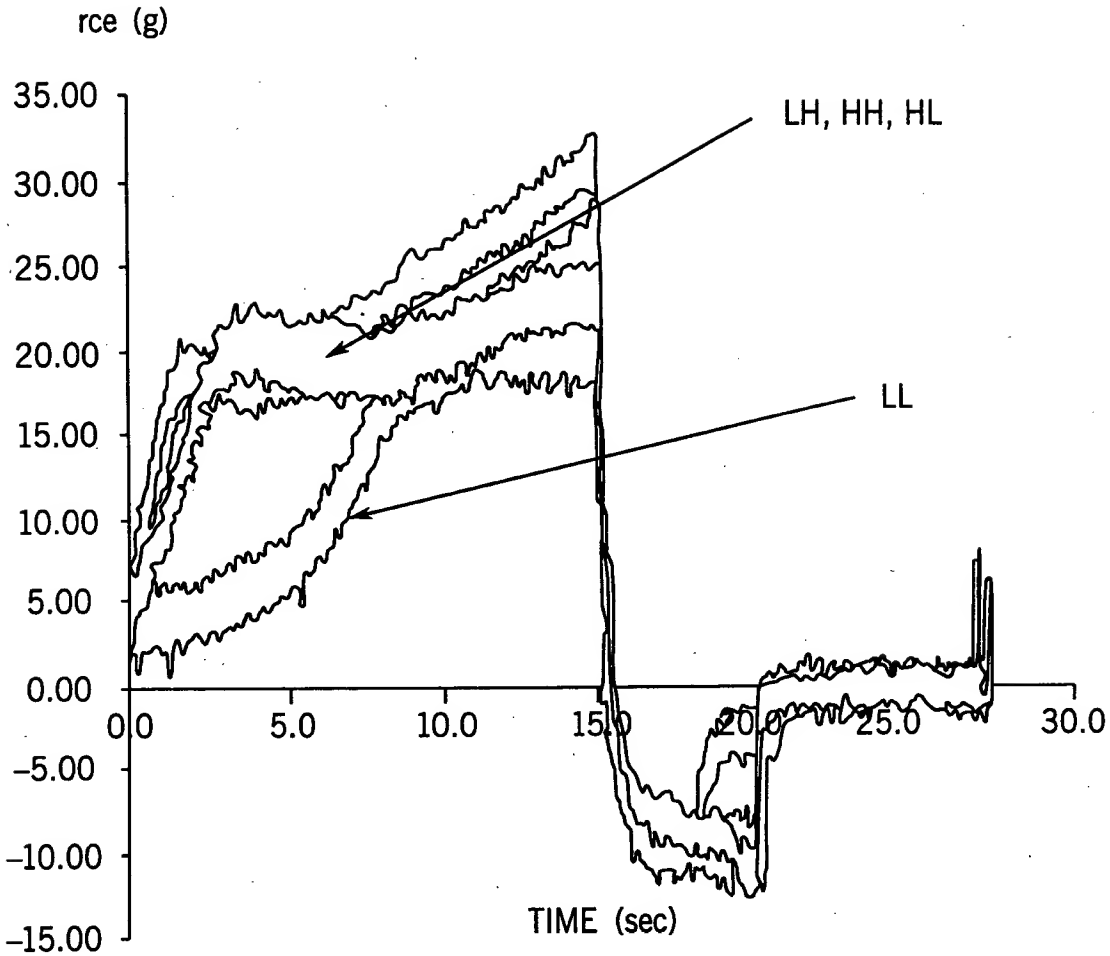
rce (g)
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
0.0
5.0
10.0
15.0
20.0
25.0
30.0
TIME (sec)
LH, HH, HL
LL

FIG. 2

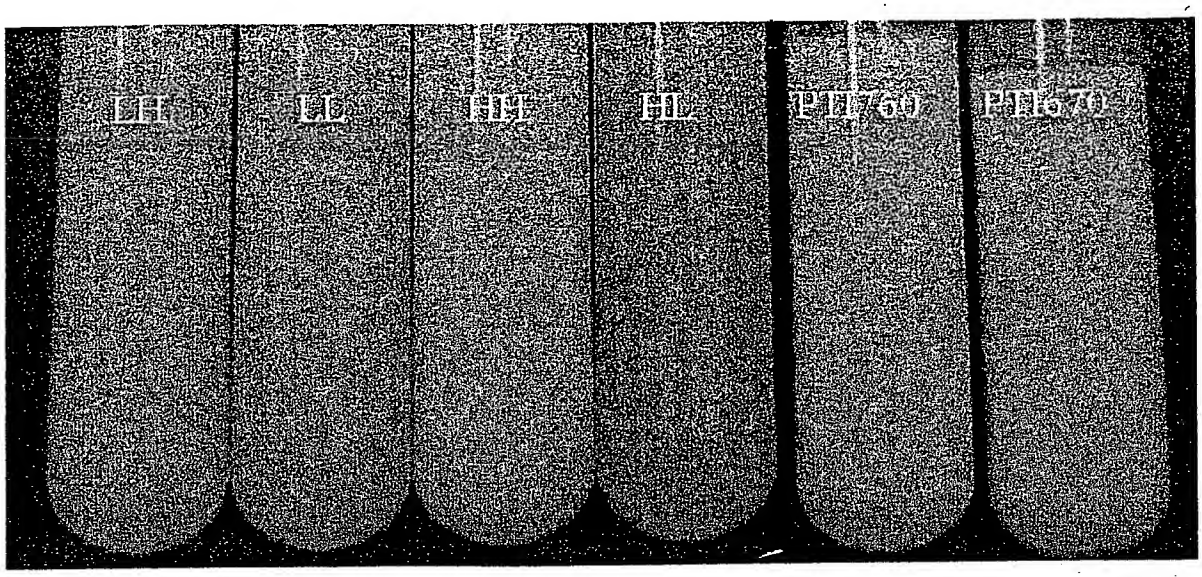

Figure 3

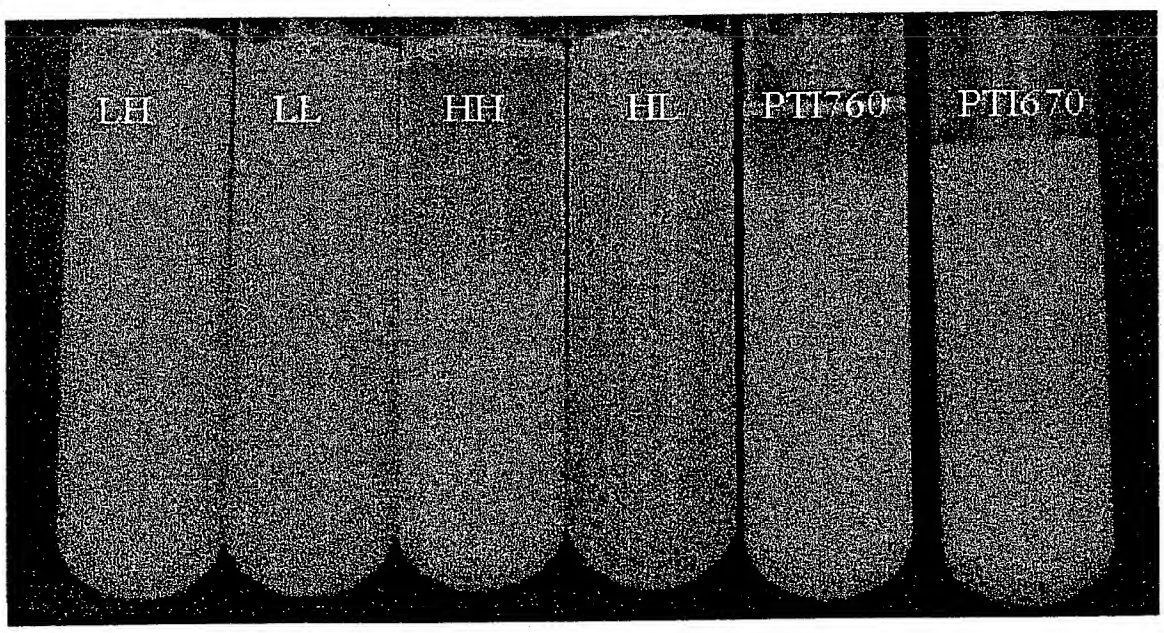

Figure 4

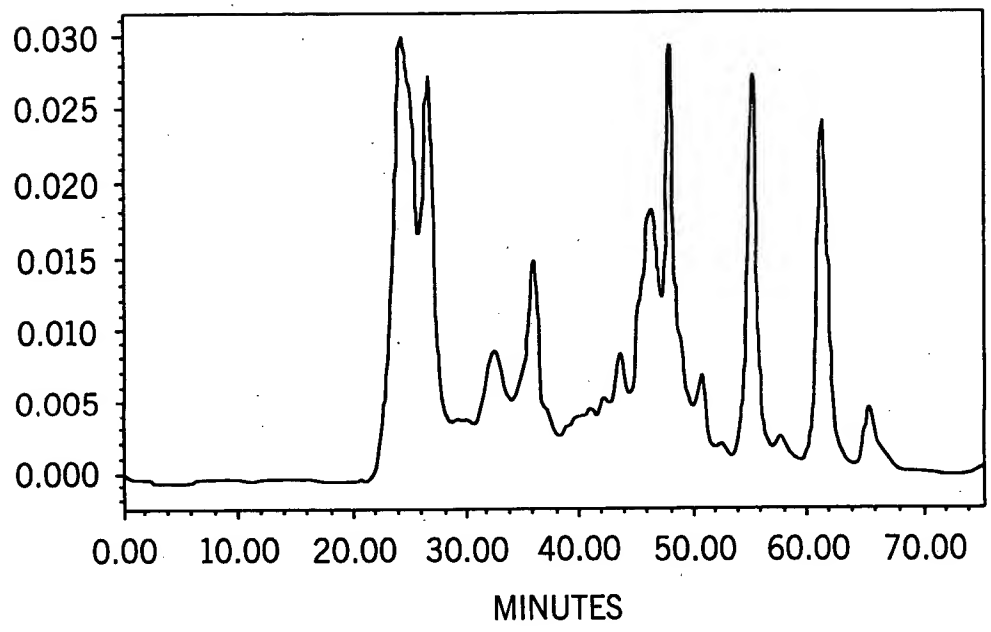
0.030
0.025
0.020
0.015
0.010
0.005
0.000
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
MINUTES

FIG. 5

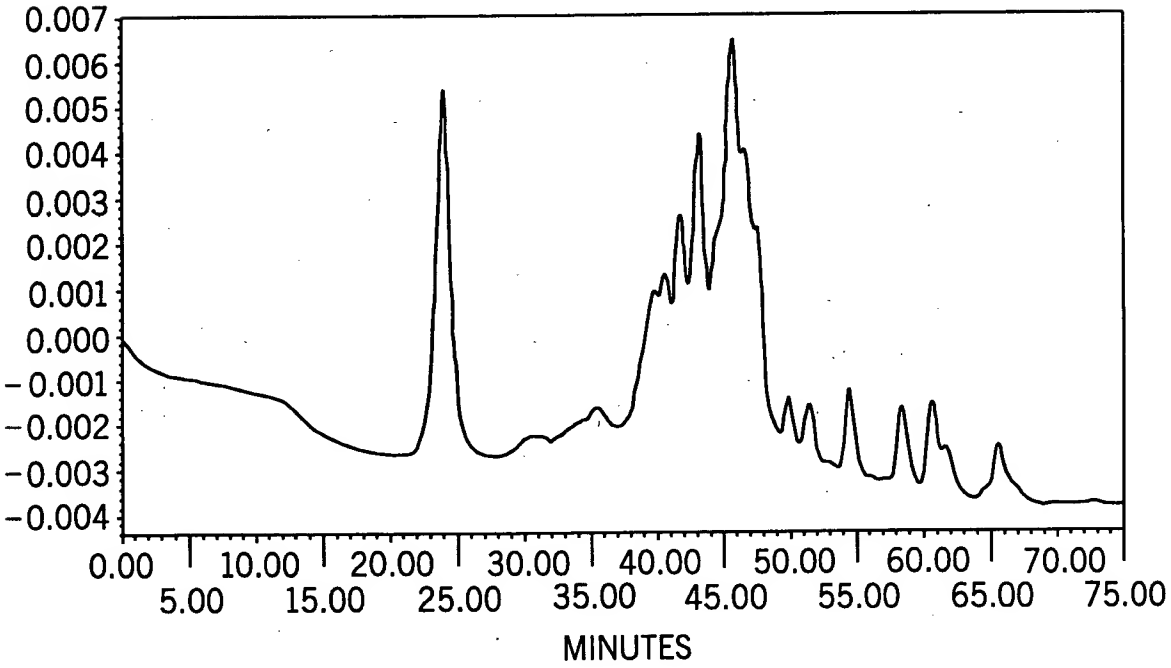
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0.000
-0.001
-0.002
-0.003
-0.004
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
5.00
15.00
25.00
35.00
45.00
55.00
65.00
75.00
MINUTES

FIG. 6

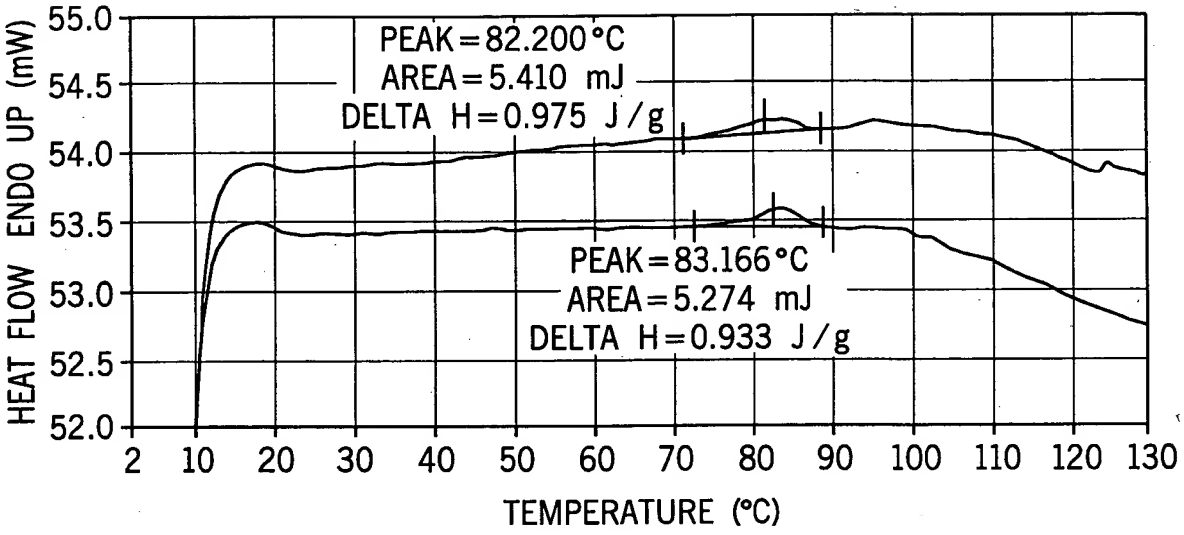
PEAK=82.200°C
AREA=5.410 mJ
DELTA H=0.975 J/g
PEAK=83.166°C
AREA=5.274 mJ
DELTA H=0.933 J/g
HEAT FLOW ENDO UP (mW)
55.0
54.5
54.0
53.5
53.0
52.5
52.0
2 10 20 30 40 50 60 70 80 90 100 110 120 130
TEMPERATURE (°C)

FIG. 7

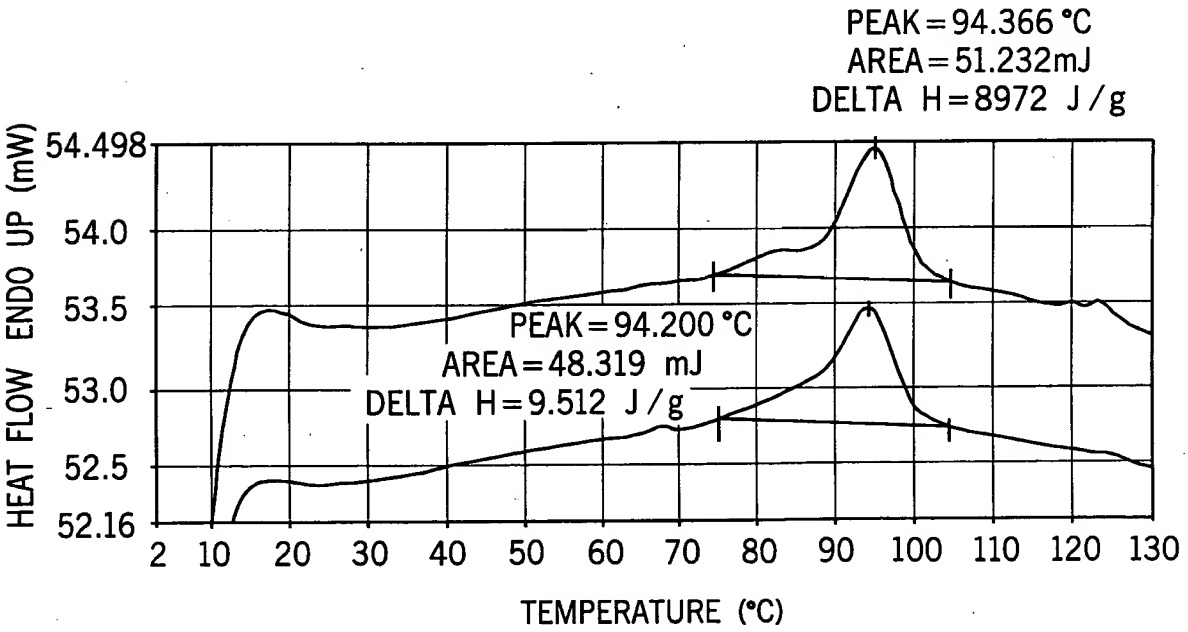
PEAK=94.366°C
AREA=51.232mJ
DELTA H=8972 J/g
PEAK=94.200°C
AREA=48.319 mJ
DELTA H=9.512 J/g
HEAT FLOW ENDO UP (mW)
54.498
54.0
53.5
53.0
52.5
52.16
2 10 20 30 40 50 60 70 80 90 100 110 120 130
TEMPERATURE (°C)

FIG. 8

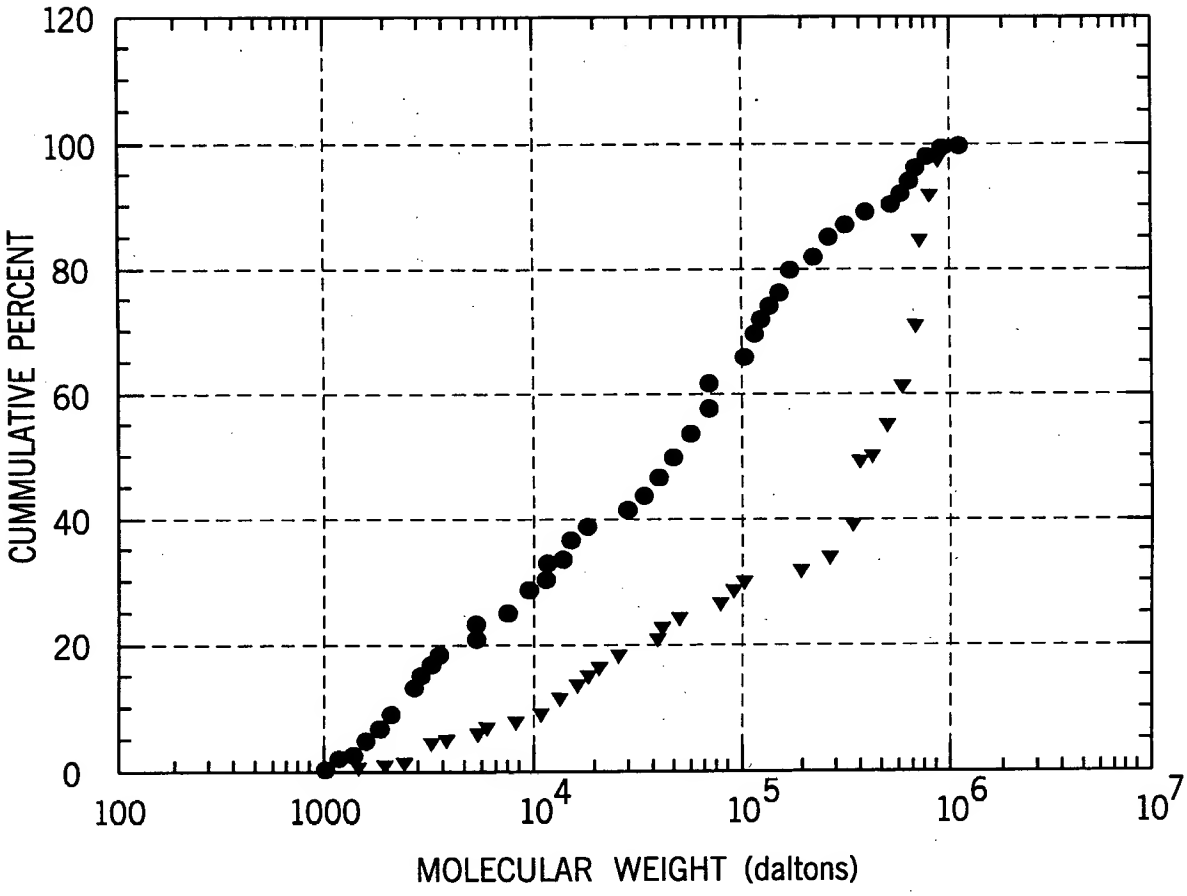
120
100
80
60
40
20
0
CUMMULATIVE PERCENT
100
1000
10^4
10^5
10^6
10^7
MOLECULAR WEIGHT (daltons)
● SUPRO425
▼ EXAMPLE 6

FIG. 9

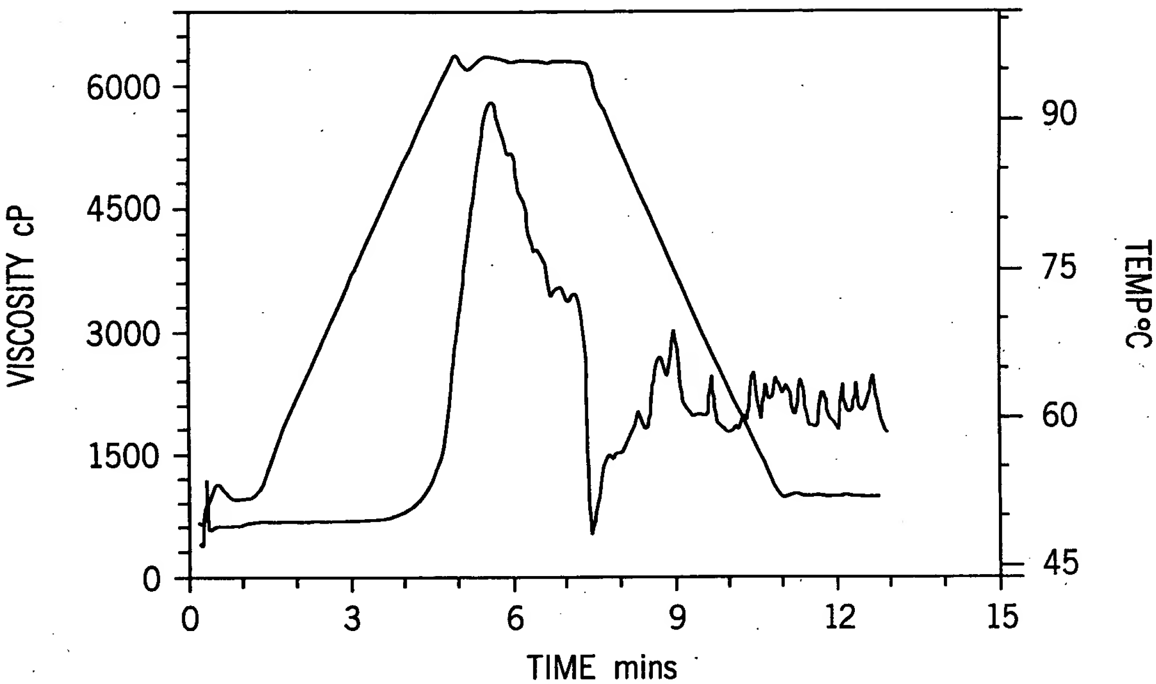
VISCOSITY cP
6000
4500
3000
1500
0
TEMP°C
90
75
60
45
0
3
6
9
12
15
TIME mins

FIG. 10

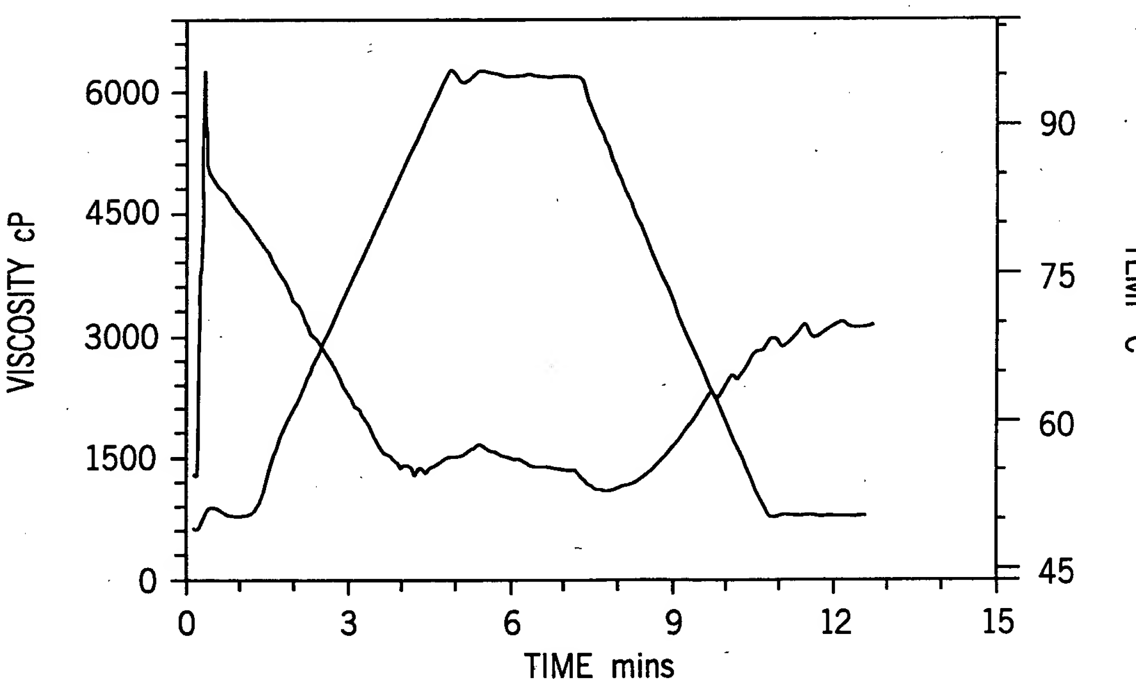
VISCOSITY cP
6000
4500
3000
1500
0
TEMP°C
90
75
60
45
0
3
6
9
12
15
TIME mins

FIG. 11

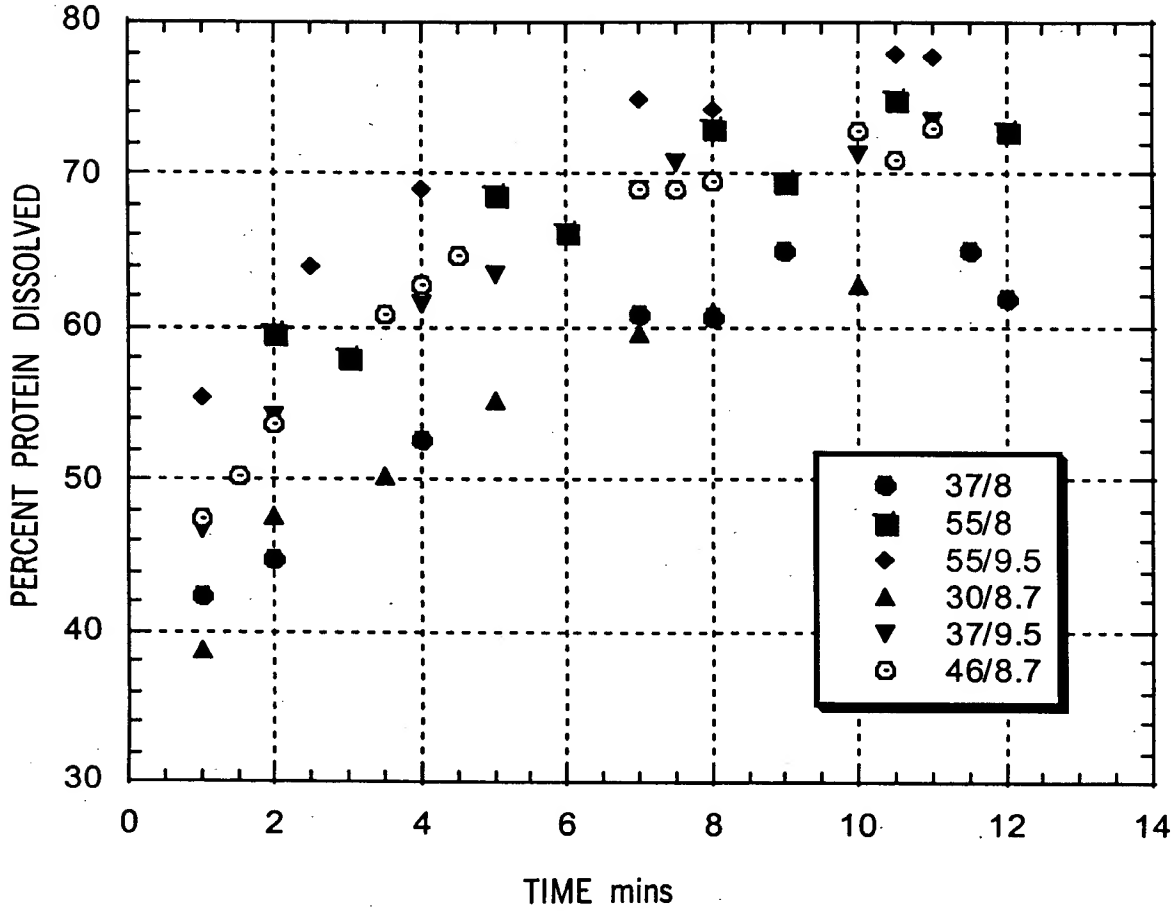
80
70
60
50
40
30
PERCENT PROTEIN DISSOLVED
0
2
4
6
8
10
12
14
TIME mins
37/8
55/8
55/9.5
30/8.7
37/9.5
46/8.7

FIG. 12